CUBIT Capability Proposal

Technical Area Geometry, Meshing, Infrastructure, GUI, Graphics, etc..	**Technical Lead** Cubit Developer in charge of technical area
Geometry	Byron Hanks

MRD Description

Describe the capability in terms of how a user would see it.

Have CUBIT automatically analyze and perform geometric operations to make geometry sweepable.

SRS Description

What needs to be done by Cubit developers to implement this capability? Break the tasks into steps if applicable. (Steps should be on the order of 2 man-weeks or more)

1. Feature recognition. CUBIT needs to be able to recognize potential source, target, and linking surfaces. Some of this must already exist in auto scheme selection code.
2. Geometry modifications. Define geometric modifications that can be made in certain circumstances to make a geometry sweepable.
3. Implement code to perform geometric operations to make geometry sweepable.

Justification

Describe why this is important and what impact it will have if it is implemented. (or not implemented).

This proposal stems from the current Goodyear needs for some automated geometry simplification and meshing capabilities. Because the geometric features of the tire tread geometry is fairly well specified it is expected that CUBIT should be able to automate the geometry modifications necessary to make the treads sweepable.

This capability would have significant overlap with the Goodyear needs.

Resources Who will work on this	**Time estimate** How much time will it take in man-weeks	**Targeted Release** 10.2 (August 06), 10.3 (March 2007), 10.4 (August 2007), Future (beyond FY07)
?	7 man months	10.2

Submitted By:	**Date:**
Brett Clark	24-March-2006